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Steve Thomas
Silviculturist
Jicarilla Agency, BIA
Branch of Forestry
P.O. Box 167
Dulce, NM 87528

Dear Steve:

This letter documents a significant localized outbreak of Elytroderma needle cast on Jicarilla Apache Indian Reservation. We examined the affected site on November 19, following your discovery earlier this year of several deformed, apparently diseased ponderosa pines in a potential planting unit.

The main infection site is located in Wells Canyon (elevation 7, 700'), below Piedra Agujero Peak, about seven miles south of Dulce. The affected area is estimated to be five to ten acres in size, mostly along the canyon bottom. Most of the pines within this area appeared to have some level of infection. Symptoms varied, and were often subtle. A few trees had dense, globular witches' brooms, while many others displayed characteristic curved, upturned branching and similar deformities. Little if any recent mortality appeared to be associated with the disease. A single infected tree with numerous witches' brooms was found about two miles north, in a different fork of Wells Canyon.

Elytroderma, caused by the native fungus *Elytroderma deformans*, is the only conifer needle cast that is perennial. After initially infecting needles via windborne spores, the fungus enters the twigs and small branches, where it can persist for many years. Once initial infections have occurred, the fungus infects new complements of needles annually on the infected branches. Symptoms of Elytroderma are most dramatic in the spring, when infected needles turn reddish, resulting in characteristic "flagging."

This is the largest outbreak of Elytroderma that I have observed in the Southwest. The disease is more common in the Pacific Northwest, Sierras, and northern Rockies, where it has caused significant growth losses and occasional mortality in some stands. Because of its chronic nature, Elytroderma tends to be more damaging—where it occurs—than other needle casts.

Based on the deformities observed, Elytroderma has been present on this site in Wells Canyon for many years. It seems likely that plantings of ponderosa pine here would eventually experience at least some deformities and growth losses from the disease. Harvest of currently-infected trees might be considered to reduce inoculum loading, although the long-term effects of this practice are unclear in the literature.

Please call me at (505) 842-3288 if you have additional questions.

Sincerely,

/s/ David A. Conklin
DAVID A. CONKLIN
Forest Pathologist, Forest Health, New Mexico
Zone

cc: Debra Allen-Reid
Don Bright